

Course:	Nut 122	Introduction to Biochemistry	
Term/Semester:	Summer 2013		
Credits:	4		
Time:	4/15/13-07/26/13	Location:	Online/Canvas
Course Instructor:	Vanessa C. Ducas vducas@bridgeport.edu		
Virtual Office Hours:	By Appointment Only		

Course Description: A review of basic general chemistry topics including atomic theory, periodic law, chemical bonding, chemical reactions, kinetics, acids, bases and organic chemistry topics including isomerism, and physiochemical properties of various functional groups. Biochemical properties of carbohydrates, lipids, proteins, and nucleotides will also be discussed. Pre-requisites: High School Algebra, High School Chemistry

Course Format: Lecture-based (powerpoint presentation with audio annotations), biweekly discussion, weekly assignments. Students can expect instructors to respond to questions within 48 hours and to give grades with feedback within one week. Questions can either be emailed or posted in the designated area on the discussion board at the student's discretion.

Instructional Objectives:

During the course, you will be taught how to synthesize your knowledge, so that you can demonstrate an ability to: 1) integrate specific facts with general principles; 2) properly define and analyze what questions are being asked, and 3) successfully solve given problems through critical thinking; 4) demonstrate a reasonable knowledge of the basic content, organization, concepts, and paradigms of this biological/physical science

Expected Learning Outcomes: Upon the completion of this course students are expected to be able to:

1. demonstrate significant knowledge of the principles of inorganic chemistry: understand atomic structure/chemical behaviors/reactivity relationship
2. demonstrate significant knowledge of the principles of organic chemistry: understand structure/function relationship
3. demonstrate significant knowledge of the principles of biochemistry: be familiar with the major macromolecules and understand the chemical basis of metabolism
4. understand the relationship between the structure of biomolecules and their functions in the body

Textbooks: *General, Organic, and Biochemistry*. 7th Ed. Denniston, Topping, Caret, McGraw Hill. ISBN: 978-0-07-340262-8

Other Required and/or Recommended Resources:

MolyMod Molecular Model Set (ISBN 978-0-07- 284609-6) (recommended)
A basic scientific calculator (required)

Grading Scale:

Letter	Percentage
A	94+
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73

Student Assessment Criteria: A grade for the course will be assigned based upon the percentage of total points earned for performance in the areas as defined below:

Criterion	Points	Percentage of Grade
Exam 1	25	15%
Exam 2	25	15%
Exam 3	25	15%
Exam 4	25	15%
Exam 5	25	15%
Amino Acids Quiz	20	5%
Intro + Discussion	35	10%
Assignments	100	10%
Grand Total	280	100%

Additional Notes: During the semester, there will be five, non-cumulative exams and a short amino acids quiz (15 min). This quiz will be given the week before the lecture on proteins. The 5 exams and the quiz will be worth 80% of the final grade. **There will be no Extra-Credit assignment.**

The additional 20% of the grade will be based on **active participation** in the Discussion Board (10%) **and** performance on weekly assignments (10%). Note: “**active participation** in the Discussion Board” **requires** contributing at least one original post to the discussion and responding to at least two posts from 2 other classmates, which guarantees full credit. “I agree.”- or “I disagree.”- type of answers do not qualify as substantive, critical responses. A new discussion assignment will be posted at least every other week and will be worth 5 pts. **The discussion topic posted will reflect the concepts being covered in that particular week’s chapters/lectures.**

Weekly assignments are posted Monday morning and are due by the following Saturday at 11 PM ET. Late submission will be accepted with a 20% deduction up to 11 AM ET Sunday. [A waiver of this rule for real and substantial illness or family emergency can be obtained if in compliance with university policy as noted in policies and guidelines (separate attachment)]. Answer Keys will be made available once every assignment has been submitted. Homework assignments are essentially exercises and problems related to the materials covered on a particular week.

*No automatic weekly reading assignments are given. Formal lectures are posted every Sunday and will generally follow topics in a similar order as they occur in the text. Some specific reading might be assigned within a given lecture, but the text index is very complete and should be used **regularly** to locate specific topics as a supplement to the lectures.

Class Policy

Revised 09-10-12

THE PROGRAM

The Human Nutrition Program at the University of Bridgeport is accessible to students with busy schedules. Classes are held online via the interactive Blackboard system or via weekend only campus classes. The program is designed to be completed in 28 consecutive months if two classes are taken per cycle. Graduation is contingent upon completing the program and passing the comprehensive exam within 5 years from program start date. Students must remain in the program they enrolled in (online or on campus). UB does require some courses to be taken online by all students.

ATTENDANCE CAMPUS WEEKEND FORMAT

Each class period represents 20% of a four credit course or 25% of a three-credit course. Class attendance and participation are indispensable parts of the educational process that are required throughout the program. Since classes only meet 4 or 5 times, depending on whether the course is 3 or 4 credits, it is imperative that students attend class. In the event of absence due to illness or family emergency, please notify the Assistant Director and the instructor immediately. If more than one class is missed during the semester for either a 3 or 4 credit course you will receive a failing grade for the class and will have to repeat it. This includes absences for illness. Make-up examinations due to absence **WILL NOT** be permitted without an approved legitimate excuse with full documentation (see makeup policies) and will result in a grade of zero for that exam. Students **ARE NOT PERMITTED** to leave class prior to 5pm unless prior authorization is received from the Assistant Director and this would require the same guidelines for approval as an absence. Prior approval must be sought during normal administration business hours Monday – Friday. Those who leave class early without prior approval or subsequent documentation of illness or emergency that meet the guidelines specified under makeup policies below will be penalized with a 20% grade deduction on their course grade.

ATTENDANCE ONLINE FORMAT

Online courses start and end on specific dates. Late entry into courses is not permitted. Students are expected to participate in a course multiple times per week. Assignments and exams are due on specific dates. Late assignment submissions will result in grade penalties. Makeup exams are subject to the same approval criteria as for the campus weekend format. Lack of participation in a class for a week or more will subject the student to being dropped from the class unless approved by the instructor and Assistant Director.

MAKE-UP POLICIES CAMPUS AND ONLINE FORMAT

Make-up examinations and assignments will not be permitted without a legitimate excuse or prior approval from the instructor and assistant director and will result in a grade of zero. An acceptable excuse for prolonged illness, or family emergency, entitling a student to a make-up examination, requires a legitimate detailed doctor's note (with diagnosis) by a U.S. licensed physician or official documentation of family emergency, which must be submitted to the Program Assistant Director and approved. Please note that only one make-up examination is allowed per course regardless of instructor approval. Missed exams must be taken before the next scheduled examination and may be modified and made more difficult by the instructor. Make-ups will not be granted for reasons of personal convenience, such as traveling, weddings and vacations.

PLAGIARISIM POLICY

Plagiarism is taken very seriously in the program. The UB policy on plagiarism can be found in the student handbook, Ch 2 at: <http://www.bridgeport.edu/life/servicesforstudents/key.aspx>

Students are also highly encouraged to take the on-line tutorial in avoiding unintentional plagiarism at <http://www.indiana.edu/~istd/>

Please be advised that UB faculty have access to “Turn It In” software which scans electronically for plagiarism from any published source and your assignments and discussion board posting may be screened using this tool.

ETHICS STATEMENT OF CONFIDENTIALITY

Students enrolled in the program are expected to honor confidentiality as it pertains to student disclosure. Shared information, comments, or opinions expressed by another student or the faculty member during the course of classroom discussion should never be used in a manner which is intended to humiliate, embarrass, harass, damage, or otherwise injure other students in their personal, public, or business lives. In addition, confidentiality must be upheld by not disclosing any information that would identify any particular individual.

WITHDRAWAL FROM A COURSE

Withdrawal from a course should be made after consultation with the course professor and the Assistant Program Director. A request to withdraw from a course must be made in writing. Only an official withdrawal will result in a grade of W, instead of F, for the course and prorated refund of tuition based on published UB policy. A student who stops attending a course without withdrawing will earn a grade of "F" for the course and will be ineligible for tuition refund.

WITHDRAWAL AND TUITION REFUND SCHEDULE

All University fees are non-refundable after the first day of the semester and only tuition will be due according to the following schedule:

Nutrition Online Format and On Campus Format:

The percentages listed below are what is due to the University based on when the student withdraws from a course.

- 0% Tuition due end of 1st week**
- 20% Tuition due end of 2nd week**
- 40% Tuition due end of 3rd week**
- 60% Tuition due end of 4th week**
- 80% Tuition due end of 5th week**
- 100% Tuition due after 5th of classes**

Verbal notification will **NOT** be accepted as an official withdrawal from class. Written verification must be forwarded to the Nutrition Institute and also the University of Bridgeport, Registrar's Office, 126 Park Avenue, Bridgeport, CT 06601. Withdrawals may also be completed online at www.bridgeport.edu/webadvisor.

FINANCIAL AID

The Human Nutrition Program is considered full-time for financial aid and loan deferment purposes. Subsidized and unsubsidized Federal Stafford Loans are available for qualified students who register for a minimum of six credits each semester. The Free Application for Federal Student Aid (FAFSA) and a University of Bridgeport Financial Aid Application must be completed. Many employers offer scholarships and /or tuition reimbursement programs. Contact the Financial Aid Office at (203) 576-4568 or sfs@bridgeport.edu for more information.

Tuition is \$700 per credit.* Non-tuition fees are \$200 per semester plus a graduation fee of \$150. The total tuition including fees is \$30,050 (not including textbooks or other out of pocket costs). There are two payment plans available to students.

Plan A. Full Tuition Plan

The Full Tuition Plan requires the total amount of tuition and non-tuition fees per semester to be paid in full on or before the first day of class each semester. Tuition is due at the time of registration. Payments may be made by check or money order, credit card, or credited through a financial aid award. The payments for each semester are as follows:

1st Semester

\$700 x 8 credits + \$200 fee = \$5,800

2nd Semester

\$700 x 6 credits + \$200 fee = \$4,400

3rd Semester

\$700 x 7 credits + \$200 fee = \$5,100

4th Semester

\$700 x 6 credits + \$200 fee = \$4,400

5th Semester

\$700 x 7 credits + \$200 fee = \$ 5,100

6th Semester

\$700 x 7 credits + \$ 200 fee = \$ 5, 100

***Tuition subject to change**

Interest-Free 10 or 9 Month-Payment Plan

The Interest-Free Monthly Payment Plan enables families to spread all or part of their tuition, room and board fees over 10 or 9 equal monthly payments. This eliminates the need to make lump sum payments at the start of each semester. One of the major benefits of this option is that there are no interest charges. For detailed information about the payment plans, call Tuition Management Systems (TMS) at 1-800-722-4867 or (401) 849-1550; or write to the company at 127 John Clarke Road, Newport, RI 02842. Those interested in payment plan options should determine the cost of attending the University for the coming year, subtract all net financial aid received (not including Federal Work-Study), and budget the remaining balance through Tuition Management Systems. If your monthly payment exceeds your ability to pay, the Borrow Smart option is available through TMS and can help meet the cost of attendance by combining the Interest-Free Monthly Payment Plan with a low-interest loan.

The first payment is due on July 1st or August 1st and the last payment is due on April 1st (10 or 9 equal payments) The Plan is very flexible, allowing participants to increase or decrease their budget amount as needed. An annual enrollment fee for the Payment Plan option is applicable for each academic year.

EVALUATION AND GRADING

The GPA is determined based on the following scale.

A= 4.00, A- = 3.67, B+ = 3.33, B = 3.00, B- = 2.67, C+ = 2.33, C =2.00, C- = 1.67, D+ =1.33, D = 1.00, I = Incomplete, W = Withdrawal, R = Research in progress.

Any course with a grade of C- or a numerical grade of 73 or less must be repeated to earn graduate credit. Other courses may be repeated if the student needs to raise the GPA. When a course is repeated, only the second grade will be used to calculate the GPA. Tuition must be paid again for all classes that are required to be re-taken (no exceptions). Evaluation and grading are the responsibility and province of the professor. All students in a

course will be graded consistently or equivalently. Students may be penalized for late or missed work. Questions regarding grades should be addressed to the course professor.

GRADE DISPUTES

A disputed grade may be appealed in writing as follows:

First Appeal: Directly to the instructor within 30 days of receipt of grade

Second Appeal: To Assistant Director of Nutrition Institute

Third Appeal: To Director of Nutrition Institute/Vice Provost of Health Sciences

Final Appeal: To the Provost

TRANSFER CREDITS

The Program Director, with the Dean's approval, may allow up to six semester hours (eight hours in the case of laboratory courses) of **graduate** transfer credits from a regionally accredited college or university. The courses being considered for transfer must have been completed within the past seven years, with a grade of "B" or better, and be comparable to the University of Bridgeport's graduate courses. Physicians (i.e.: medical, osteopathic, chiropractic, naturopathic, etc.) may request advanced standing for 560A and 560B. However, many choose to take 560B (Biochemistry) if they have not had the course in many years, as a review and preparation for course 560D (Clinical Biochemistry). Advanced transfer credit for physicians will only be granted for courses where a grade of "B" or better was achieved.

INCOMPLETE COURSEWORK

An "I" (Incomplete) designates incomplete work at the time of grading for reasons beyond the control of the student, fully documented, and corresponding to UB makeup policies as stated above, and determined to be bona-fide by the instructor and the Assistant Program Director. Incomplete coursework should be completed by the end of the semester immediately following the one in which the incomplete was granted. If the work has not been completed and no grade has been submitted as indicated, the grade automatically becomes F. ***STUDENTS WHO ARE FAILING A COURSE ARE NOT PERMITTED TO TAKE AN INCOMPLETE AND REPEAT THE COURSE TO ATTAIN A NEW GRADE. A GRADE OF "F" WILL BE ISSUED AND THE COURSE WILL HAVE TO BE REPEATED BY RE-REGISTERING FOR THE COURSE.***

GOOD ACADEMIC STANDING PROBATION AND SEPARATION

Good academic standing is achieved when a student maintains a 3.0 GPA. If the GPA drops below 3.0, the student will be placed on academic probation. A student, who receives a second grade of "D" or "F" in any course, or is placed on probation in two different semesters, will be separated from the program. In cases of academic probation, the student should consult with the Program Assistant Director for advice and planning to raise the GPA. In cases of separation from the program, a student may make a written appeal to the Director within ten days of the notification of separation. If an appeal is granted, the student will remain on academic probation and his progress will be monitored periodically during the semester.

RESEARCH IN NUTRITION - COURSE 560J

The research project can be taken as an elective, and is not required, as part of the Human Nutrition Program. The project can be a literature-based study or an original research project. Students have one semester to complete the project before incurring a fee. If thesis completion exceeds the one semester limit, the student must maintain continuous matriculation by registering for ADMIN 600, each semester, until the thesis has been completed.

GRADUATION REQUIREMENTS

The minimum number of credits required for graduation is 41; the minimum GPA required is 3.0. Students are expected to complete class work for the degree within five years of initial enrollment in the program.

Successful completion of ALL sections of the comprehensive competency examination is required for graduation. This examination and all required re-takes are given on-site on the UB campus on a **Saturday** (exact dates published several months prior to each examination) and will not be given by proctor at other sites or on alternate days of the week (no exceptions). If you can- not take examinations on a Saturday for any reason please consider the above policy **before** entering the program. Study guides and sample questions will be available to all students eligible to sit the examination by the distance learning department. Any sections that are not successfully completed must be re-taken on the UB campus at assigned dates. Only two attempts will be allowed without remediation, as assigned by the program director.

I have read the above policies and guidelines (revision 09-10-12) and have been given a copy of said policies and guidelines. Please submit this signature page back to the Nutrition Institute prior to registering for classes located at: University of Bridgeport, Nutrition Institute, 30 Hazel Street, Bridgeport, CT 06604.

This signature page must be submitted to the Nutrition Institute before the beginning of the first semester coursework or registration will not occur. This signature reflects acceptance of these policies and guidelines and all revisions made to them during the course of my studies in the UB masters of nutrition program. All updates and or changes will be furnished to me via the individual syllabi received in each course by the professor.

Signed: _____ (Student)ID# _____

Print Name: _____

Date: _____

NUTR 122 - INTRODUCTION TO BIOCHEMISTRY (Summer 2013)

Time in ET

Module I: GENERAL CHEMISTRY

Week 1 (Apr 15 - 21): Assignment 1 due by 11 PM 4/20- Introductory Posting Due by 11:59 PM 4/21

Chaps 1 & 2 I) Chemistry: Methods and Measurements
 II) The Structure of the atom and the Periodic table

Week 2 (Apr 22 - 28): Assignment 2 due by 11 PM 4/27- Discussion I posted and due by 11:59 PM 4/28

Chaps 3 & 4 I) Ionic and Covalent Compounds
 II) Chemical Reactions/ Chemical Equation

Week 3 (Apr 29- May 5):

Chaps 5 & 6 I) States of Matter
 II) Solutions

Exam I Review Session via Wimba on Monday April 29, 2013, 6-7PM

****EXAM I available 5/3/13-5/5/13 (Covers week 1,2 and 3 lectures, assigned readings, if any, and assignments). No assignments due.****

Week 4 (May 6 - 12): Assignment 3 due by 11 PM 5/11- Discussion II posted and due by 11:59 PM 5/12

Chap 7 Energy, Rate, and Equilibrium

Week 5 (May 13 - 19)

Chaps 8 & 9 I) Acids and Bases/Oxidation-Reduction
 II) Nuclear Chemistry

Exam II Review Session via Wimba on Monday May 13, 2013 6-7PM

****EXAM II available 5/17/13-5/19/13 (Covers week 4 and 5 lectures, assigned readings, if any, and assignments). No assignments due.****

Module II: ORGANIC CHEMISTRY

Week 6 (May 20 - 26): Assignment 4 due by 11 PM 5/25 - Discussion III posted and due 11:59 PM 5/26

Chaps 10 & 11 I) Introduction to Organic Chemistry- Saturated hydrocarbons
 II) Unsaturated hydrocarbons

Week 7 (May 27 – Jun 2): Assignment 5 due by 11 PM 6/01

Chaps 12 & 13 I) Alcohols, Phenols, Thiols, and Ethers
II) Aldehydes and Ketones

Week 8 (Jun 3 - 9):

Chaps 14 & 15 I) Carboxylic acids and Derivatives
II) Amines and Amides

Exam III Review Session via Wimba on Monday June 3, 2013 6-7 PM.

****EXAM III available 6/07/13-6/09/13 (Covers week 6, 7 and 5 lectures, assigned readings, if any, and assignments). No assignments due.****

Module III: BIOCHEMISTRY

Week 9 (Jun 10- 16): Assignment 6 due by 11 PM 6/15- Discussion IV posted and due by 11:59 PM 6/16

Chaps 16 & 17 I) Carbohydrates
II) Lipids

**** *Amino acids quiz due - available until 11:59 PM ET 6/16****

Week 10 (Jun 17- 23):

Chaps 18 & 19 I) Protein Structure and Functions
II) Enzymes

Exam IV Review Session via Wimba on Monday June 17, 2013 6-7 PM.

****EXAM IV available 6/21/13-6/23/13 (Covers week 9 and 10 lectures, assigned readings, if any, and assignments). No assignments due.****

Week 11 (Jun 24- 30) : Assignment 7 due by 11 PM 6/29- Discussion V posted and due by 11:59 PM 6/30

Chap 21 Carbohydrate Metabolism

Week 12 (July 1- 7): Assignment 8 due by 11 PM 7/6

Chap 22 Aerobic Respiration and Energy Production

Week 13 (July 8- 14): Assignment 9 due by 11 PM 7/13- Discussion VI posted and due by 11:59 PM 7/14

Chap 23 Fatty Acid Metabolism

Week 14 (July 15- 21): Assignment 10 due by 11 PM 7/20

Chap 20 Introduction to Molecular Genetics

Week 15 (July 22-26) SHORT WEEK

Exam V Review Session via Wimba on Monday July 22, 2013 6-7 PM.

****EXAM V available 7/26/13-7/28/13 (Covers week 11, 12, 13 and 14 lectures, assigned readings, if any, and assignments). No assignments due.****